Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Denbury Onshore, LLC
Well Name/Number: Unit 41-28
Location: (NE NE) Lot 1 Section 28 T14N R55E
County: Dawson **, MT; Field (or Wildcat)** Gas City

Air Quality

(possible concerns)
Long drilling time: No, 20-30 days drilling time.
Unusually deep drilling (high horsepower rig): No, triple drilling rig for 9,200' TD, vertical development well. Red River Formation at total depth with objective formations Interlake, Stony Mountain and Red River, which are field producing formations.
Possible H2S gas production: Yes, possible H2S gas from these Mississippian, Devonian, Silurian-Ordovician formations.
In/near Class I air quality area: No Class I air quality area in area of review.
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:
_X Air quality permit (AQB review)
__ Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
__ Other:_____

Comments: No special concerns – using a triple derrick drilling rig to drill a vertical 9,200' TD Red River Formation well test. If there are existing pipelines for associated gas in the area, gas can be gathered or if no gathering system nearby, associated gas can be flared under Board Rule 36.22.1220.

Water Quality

(possible concerns)
Salt/oil based mud: Use freshwater and freshwater mud system for drilling surface hole (Rule 36.22.1001) and main hole will utilize oil based invert mud to TD.
High water table: No, high water table anticipated at this location.
Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary drainages to Cedar Creek, about ¼ of a mile northwest from this location. Cedar Creek, about 3/8 of a mile to the southwest from this location.
Water well contamination: None, closest water well are about ½ of a mile to the northeast and about 1 mile to the southwest from this location. Depth of these stock and industrial water wells range from 300' to 570'. Surface casing will be set below all known water wells in the area. Surface hole will be drilled with

freshwater and freshwater drilling fluids, rule 36.22.1001. Surface casing will be set to1300' and cemented back to surface.
Porous/permeable soils: No, sandy silty clay soils.
Class I stream drainage : Yes Class I drainage would be the Yellowstone River in the area of review.

Mitigation:

X Lined reserve pit
X Adequate surface casing
__ Berms/dykes, re-routed drainage
X Closed mud system
X Off-site disposal of solids/**liquids (in approved facility)**
X Other: Reserve/Cuttings pit will be lined with a minimum of a 12 mil impermeable liner.

Comments: 1300' of surface casing cemented to surface is adequate to protect freshwater zones. Also, fresh water drilling mud systems to be used to drill the surface hole, rule 36.22.1001. Oil base invert drilling fluids will be used to drill the hole from under surface casing to TD. Oil based drilling fluids will be recycled and completion fluids will be hauled to a commercial Class II disposal. Solids will be left on site in the lined cuttings pit after being allowed to dry, pit liner folded over the top of the solids, minimum of 4' of spoil dirt to fill pit over the top of the cuttings.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: None anticipated.
High erosion potential: Yes possible high erosion potential at this well site due to moderate cut requirement. Location will require a moderate cut, up to 24.6' and small fill, up to 9.7', required.
Loss of soil productivity : None, location to be restored after drilling well, if well is nonproductive. If productive unused portion of drillsite will be reclaimed.
Unusually large wellsite: Large, 276'X420' location size required.
Damage to improvements: Slight, surface use is grazing land.
Conflict with existing land use/values: Slight

Mitigation

__ Avoid improvements (topographic tolerance)
__ Exception location requested
X Stockpile topsoil
__ Stream Crossing Permit (other agency review)
X Reclaim unused part of wellsite if productive
__ Special construction methods to enhance reclamation
__ Other

Comments: All of the access will be over existing county roads, existing Anticline Road and existing lease roads. About 361' of new road will be constructed into this location off the an existing lease road. No special concerns.

Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences: Oil field buildings and facilities are the only structures nearby. Unknown if they are any residences nearby. Either way the drilling of this well should not pose any problems.
Possibility of H2S: Yes H2S gas possible from the Mississippian, Devonian, Silurian-Ordovician formations.
Size of rig/length of drilling time: Triple drilling rig 20 to 30 days drilling time.

Mitigation:

_X_ Proper BOP equipment
__ Topographic sound barriers
__ H2S contingency and/or evacuation plan
__ Special equipment/procedures requirements
X Other: Standard H2S safety equipment for the drilling of this well, rule 36.22.1014.

Comments: No special concerns. Proper BOP stack (5000 psig annular with double blind rams and pipe rams), rule 36.22.1014 and surface casing should be able to control any problems that could occur.

Wildlife/recreation

(possible concerns)
Proximity to sensitive wildlife areas (DFWP identified): None, identified
Proximity to recreation sites: None identified
Creation of new access to wildlife habitat: No
Conflict with game range/refuge management: No
Threatened or endangered Species: Species identified as threatened or endangered are the Pallid Sturgeon, Interior Least Tern and Whooping Crane. Candidate species are the Greater Sage Grouse and the Sprague's Pipit. MTFWP Natural Heritage Tracker website lists eleven (11) species of concern. They are the Loggerhead Shrike, Least Tern, Spiny Softshell, Greater Short-horned Lizard, Common Sagebrush Lizard, Blue Sucker, Sturgeon Chub, Sicklefin Cub, Paddle Fish, Sauger and Pallid Sturgeon.

Mitigation:

__ Avoidance (topographic tolerance/exception)
__ Other agency review (DFWP, federal agencies, DSL)
__ Screening/fencing of pits, drillsite
__ Other: _____

Comments: The surface ownership is private land. There may be species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: None identified.

Mitigation

__ avoidance (topographic tolerance, location exception)

__ other agency review (SHPO, DSL, federal agencies)

__ Other:

Comments: On private surface land. There may be possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desire to preserve these sites or not, if they are found during construction of this wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

Social/Economic

(possible concerns)

__ Substantial effect on tax base

__ Create demand for new governmental services

__ Population increase or relocation

Comments: No concerns, a development oil well within the Gas City Oil Field.

Remarks or Special Concerns for this site

Well is a 9,200' TD, vertical development well. Red River Formation well test in the Gas City oil field.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki

(title:) Chief Field Inspector

Date: March 20, 2013

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

_____
(Name and Agency)
Dawson County water wells__
(subject discussed)
March 20, 2013_____
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES
MONTANA COUNTIES, Dawson County
(subject discussed)

March 20, 2013_____
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, T14N R55E
(subject discussed)

March 20, 2013_____
(date)

Montana Cadastral Website
(Name and Agency)
Surface Ownership and surface use Section 28 T14N R55E
(subject discussed)

March 20, 2013_____
(date)

If location was inspected before permit approval:
Inspection date: _____
Inspector: _____
Others present during inspection:_____